

sub 02 > oat hull fibers, comprising preparing a suspension of said fibers in a liquid media, applying an abrupt pressure change for about 0.1 to about 0.2 sec [greater than 13,000 to about 100,000 psi] to said suspension by means of a piston driven by a compressive air force of about 60 to about 90 psi and recovering a modified fiber having said increased properties.

12. (Once amended) A process to prepare a dietary fiber material having water absorption properties that are resistant to change due to temperature increases comprising preparing a suspension of said fibers in a liquid media, applying an abrupt pressure change for about 0.1 to about 0.2 sec [greater than 13,000 to about 100,000 psi] to said suspension by means of a piston driven by a compressive air force of about 60 to about 90 psi and recovering a modified fiber having said resistant properties.

13. (Once amended) A process to increase the total dietary fiber content of a dietary fiber material comprising preparing a suspension of said fibers in a liquid media, applying an abrupt pressure change for about 0.1 to about 0.2 sec [greater than 13,000 to about 100,000 psi] to said suspension by means of a piston driven by a compressive air force of about 60 to about 90 psi and recovering a modified fiber --having said resistant properties--.

### REMARKS

Reconsideration of the present application in view of the foregoing amendments and the following remarks is requested respectfully.

#### **I. STATUS OF CLAIMS**

Claims 1-15 are presented. No claims have been added, claims 1, 2, 10, 11, 12 and 13 have been amended, and no claims have been cancelled. Support for the amendments to

Claim 1 is found in the specification at page 1, lines 24-25. Support for the amendments to Claims 2, 10, 11, 12 and 13 is found in the specification at page 7, lines 9-11, at page 8, line 27 to page 9, line 2, and at page 14, line 11.

## **II. THE § 112 REJECTION**

Claim 2 stands rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention. Applicants have amended claim 2 to more clearly state the range of air pressure applied to drive the piston used in the present invention. Accordingly, applicants submit respectfully that the rejection of such claim has been addressed in full and has now been rendered moot.

## **III. CLAIMS 1-15 DEFINE PATENTABLE SUBJECT MATTER**

### **A. Summary Of The Claimed Invention**

The present invention relates to a process for modifying the properties of particulate dietary fiber material derived from natural grains and wood products by dispersing said particulate material in a liquid media, applying an abrupt pressure change to the particulate material in the liquid media, and recovering the modified material. As set forth in the specification, dietary fibers are usually fibers that are derived from corn, wheat, oats, or other natural grains as well as wood products. In certain embodiments of the present invention, the process also comprises drying the modified fiber (see, e.g., claims 3, 7 and 8), and subjecting the recovered material to mechanical action sufficient to reduce particulate agglomeration (see, e.g., claim 4). In certain embodiments of the present invention, the process reduces the

water holding capacity and oil retention properties of certain dietary fibers (see, e.g., claim 10), while in other embodiments, the process increases the water holding capacity and oil retention properties of certain other dietary fibers (see, e.g., claim 11). Certain embodiments of the present invention also render the modified dietary fibers resistant to changes in their water absorption properties (see, e.g., claim 12), and increase the total dietary fiber content of the dietary fiber material so modified (see, e.g., claim 13).

#### **B. The § 102 Rejection**

Claims 1, 5 and 14-15 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Allen (U.S. Patent No. 3,389,997) ("the '997 patent"). The rejection of Claims 1, 5 and 14-15 based on § 102(b) is traversed respectfully. The '997 patent is directed to the recovery of intra-cellular proteins from a variety of materials, including wheat and oats. The Examiner's reading of the teachings of the '997 patent are as follows:

Allen teaches a method for modifying the properties of particulate dietary fiber by dispersing the fiber in a liquid medium (column 2, lines 4-15), the use of oat and wheat fiber (column 1, line 57), applying an abrupt pressure change (column 2, line 8), recovering the modified fiber (column 2, line 61), and the liquid medium containing 16,7% dispersed fiber (column 2, line 72), and mechanical separation (column 2, line 62).

Office Action at 3. The '997 patent falls short of the Examiner's reading in two important respects.

First and foremost, the '997 patent neither teaches nor suggests the application of an abrupt pressure change as claimed in the present invention. Rather, the '997 patent discloses the use of electrodes to provide an arc of electricity in the reaction chamber in order to generate an *electric* shock wave through the mixture. The application of an *electric* shock

wave, generated by electrodes and measured in volts, is quite a different process from the use of an abrupt *pressure* change measured in pounds per square inch. Secondly, the '997 patent neither teaches nor suggests the modification of *particulate dietary fiber*, or indeed the use of wheat or oat *fiber*. Rather, the '997 patent speaks only in terms of a wide variety of *whole plant materials* including wheat and oats. The use of *fiber derived from plant material* is quite different from the use of plant material *as a whole*. Accordingly, applicants submit respectfully that the '997 patent cannot be said to anticipate, or even render obvious, Claims 1, 5 and 14-15. Applicants therefore request respectfully that the rejection of Claims 1, 5 and 14-15 based on § 102(b) be withdrawn.

**C. The Presently Claimed Invention is Patentably  
Unobvious Over the Disclosure of the '997 Patent**

Claims 3-4 and 6-9 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the '997 patent. The rejection of Claims 3-4 and 6-9 based on § 103(a) is traversed respectfully. Claims 3-4 and 6-9 all depend (directly or indirectly) from Claim 1 which, as set forth more fully above, is neither anticipated by nor obvious in view of the '997 patent. As a result, insofar as Claims 3-4 and 6-9 depend from a nonobvious claim, they are similarly nonobvious. Accordingly, it is respectfully submitted that the rejection of Claims 3-4 and 6-9 based on § 103(a) should be withdrawn.

**D. The Presently Claimed Invention is Patentable  
Over the '997 Patent in View of Eberly Jr.**

Claims 2 and 10-13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the '997 patent in view of Eberly Jr. (U.S. Patent No. 3,556,414) ("the '414 patent"). This rejection is traversed respectfully.

As set forth above, the '997 patent pertains to the recovery of intra-cellular proteins from a variety of whole plant materials by means of an electric shock process. The processes and techniques disclosed in the '997 patent are, therefore, directed to the problems and limitations that arise in the electrical extraction of intra-cellular proteins. In contrast, the '414 patent pertains to a process for rupturing animal or plant cells by means of an explosive decompression force that minimizes damage to the subcellular components thereof so that such subcellular components, such as enzymes, microsomes and nucleic acids, can be harvested. In view of the dramatically different principles being employed in the methods of the '997 patent and the '414 patent, and the unique and different sets of problems and limitations associated with the respective objectives of these patents, applicants submit respectfully that the '997 patent and the '414 patent are not properly combinable as they are in non-analogous art fields.

Assuming these references to be in analogous art fields, it remains that the '997 patent fails to disclose several important elements of the presently claimed invention. <sup>what?</sup> More specifically, the '997 patent neither discloses nor suggests the application of an abrupt pressure change to a particulate dietary fiber. As a result, the Examiner's use of the '414 patent to supply *other* elements not found in the '997 patent cannot result in a finding of obviousness with respect to the presently claimed invention. Simply put, the same deficiencies which render the '997 patent incapable of anticipating or rendering obvious claims of the present invention also render the combination of the '997 patent with the '414 patent similarly incapable of supporting an obviousness rejection.

The Examiner relies on the teachings of the '414 patent in order to supply the use of a "quick pressure change in the form of a shock wave...." See Office Action at 4. Yet the

actual process employed in the '414 patent involves only a rapid *decompression*, not the application of a *compressive* force. As a result, no shock wave is or even could be generated that would propagate through the reaction vessel.

Moreover, even if the '997 patent could be read to teach the application of a *pressure* shock wave (as opposed to the electric shock wave it actually teaches), there would be no motivation to combine such teachings with those of a patent which speak exclusively in terms of the application of a rapid decompression. In the absence of such a motivation, the combination of the '997 patent and the '414 patent is unwarranted and inappropriate. Further, even if such a motivation were present, in view of the amendments as set forth above, the addition of the teachings of the '414 patent with respect to pressure ranges and rapid decompression to the teachings of the '997 patent does not render the presently amended claims obvious. The fact remains that neither the '997 patent nor the '414 patent concern the modification of *dietary fiber materials*, but rather are processes more closely related to the processing of the natural source materials from which the claimed dietary fiber is derived. Accordingly, it is respectfully submitted that the rejection of Claims 2 and 10-13 based on § 103(a) should be withdrawn.

### III. CONCLUSION

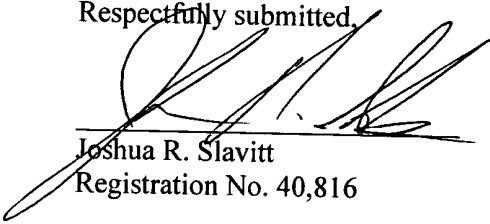
In view of the foregoing amendments and remarks, favorable reconsideration and prompt notice of allowance of all of the pending claims are requested respectfully.

Should the Examiner continue to have any doubts as to the allowability of any of the claims, he is requested respectfully to telephone the applicants' undersigned attorney to

discuss same before issuing further action, as it is believed such discussion would help to expedite the prosecution of this application.

October 27, 2000

Respectfully submitted,



Joshua R. Slavitt

Registration No. 40,816

SYNNESTVEDT & LECHNER LLP  
2600 ARAMARK Tower  
1101 Market Street  
Philadelphia, PA 19107-2950  
(215) 923-4466

JRS/dlf

m:\jrs\verion\23090b.usa\officeactionreply